

1 in all respects only as illustrative and not restrictive. The scope of the invention is,
2 therefore, indicated by the appended claims rather than by the foregoing description. All
3 changes which come within the meaning and range of equivalency of the claims are to be
4 embraced within their scope.

5 What is claimed and desired to be secured by United States Letters Patent is:
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1 1. In a network system including a server system and a client system, wherein
2 the server system monitors the occurrence of events, sends notification to the client system
3 after one of the monitored events occurs, a method for efficiently notifying the client
4 system of the occurrence of a monitored event, so as to provide notification in a manner
5 preserving the processing capacity of the server system and the client system, and
6 preserving bandwidth on the network system, the method comprising:

7 an act of the client system sending a request to the server system, wherein
8 the request is that the server system transmit a packet of data to the client system
9 using a connectionless protocol;

10 an act of the client system attempting to receive a packet of data from the
11 server system, wherein the packet of data is sent using a connectionless protocol;

12 an act of the client system requesting that notifications be sent using the
13 connectionless protocol, if the attempt to receive the packet of data is successful;

14 an act of the client system requesting that notifications be sent using a
15 connection-oriented protocol, if the attempt to receive the packet of data is not
16 successful.

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18 2. The method as recited in claim 1, wherein the act of the client system
19 requesting notifications be sent using a connection-oriented protocol, further comprises an
20 act of the client system attempting to establish a connection to the server system using the
21 connection-oriented protocol.

1 3. The method as recited in claim 2, wherein the act of the client system
2 requesting that notifications be sent using a connection-oriented protocol, further
3 comprises:

4 an act of the client system polling the server system at time intervals to
5 check for data associated with the occurrence of events; and

6 an act of the client system requesting the data associated with occurrence of
7 events be transmitted to the client system.

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9 4. The method as recited in claim 1, wherein the attempt to receive the packet
10 of data is not successful if the packet of data is not received within a prespecified period of
11 time.

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13 5. The method as recited in claim 1, wherein the connection-oriented protocol
14 is the Transmission Control Protocol.

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16 6. The method as recited in claim 1, wherein the connectionless protocol is the
17 User Datagram Protocol.

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19 7. The method as recited in claim 1, wherein the act of the client system
20 requesting that notifications be sent using the connectionless protocol comprises an act of
21 making an express request that notifications be sent using the connectionless protocol.

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23 8. The method as recited in claim 1, wherein the server is configured to, by
24 default, send notifications using a connectionless protocol absent any instruction to the

1 contrary, wherein the act of the client system requesting that notifications be sent using the
2 connectionless protocol comprises an act of abstaining from making an express request
3 thereby impliedly requesting that notifications be sent using the connectionless protocol.
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5 9. The method as recited in claim 1, wherein the client system resides in a
6 private network protected by a firewall, wherein communications using the connectionless
7 protocol are blocked by the firewall from entering the private network.
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1 10. In a network system including a server system and a client system, wherein
2 the server system monitors the occurrence of events, sends notification to the client system
3 after one of the monitored events occurs, a method for determining if notification from the
4 server system to the client system is viable, using a connectionless protocol, so as to
5 provide notification in a manner preserving the processing capacity of the server system
6 and the client system, and preserving bandwidth on the network system, the method
7 comprising:

8 a step for the client system to determine if communication can be received
9 from the server system using the connectionless protocol; and

10 an act of the client system requesting that notifications be sent using the
11 connectionless protocol, if the attempt to receive communication is successful;

12 an act of the client system requesting that notifications be sent using a
13 connection-oriented protocol, if the attempt to receive communication is not
14 successful.

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16 11. The method as recited in claim 10, wherein the act of the client system
17 requesting notifications be sent using a connection-oriented protocol, further comprises an
18 act of the client system attempting to establish a connection to the server system using the
19 connection-oriented protocol.
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1 12. The method as recited in claim 10, wherein the act of the client system
2 requesting that notifications be sent using a connection-oriented protocol, further
3 comprises:

4 an act of the client system polling the server system at time intervals to
5 check for data associated with the occurrence of events; and

6 an act of the client system requesting the data associated with occurrence of
7 events be transmitted to the client system.

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9 13. The method as recited in claim 10, wherein the attempt to receive the packet
10 of data is unsuccessful if the packet of data is not received within a prespecified period of
11 time.

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13 14. The method as recited in claim 10, wherein the connection-oriented
14 protocol is the Transmission Control Protocol.

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16 15. The method as recited in claim 10, wherein the connectionless protocol is
17 the User Datagram Protocol.

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19 16. The method as recited in claim 10, wherein the act of the client system
20 requesting that notifications be sent using the connectionless protocol comprises an act of
21 making an express request that notifications be sent using the connectionless protocol.

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23 17. The method as recited in claim 10, wherein the server is configured to, by
24 default, send notifications using a connectionless protocol absent any instruction to the

1 contrary, wherein the act of the client system requesting that notifications be sent using the
2 connectionless protocol comprises an act of abstaining from making an express request
3 thereby impliedly requesting that notifications be sent using the connectionless protocol.
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5 18. The method as recited in claim 10, wherein the client system resides in a
6 private network protected by a firewall, wherein communications using the connectionless
7 protocol are blocked by the firewall from entering the private network.
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9 19. The method as recited in claim 10, wherein the step for the client system to
10 determine if communication can be received from the server system using the
11 connectionless protocol comprises the following:

12 an act of the client system sending a request to the server system, wherein
13 the request is that the server system transmit a packet of data to the client system
14 using a connectionless protocol; and

15 an act of the client system attempting to receive a packet of data from the
16 server system, wherein the packet of data is sent using a connectionless protocol;
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1 20. A computer product claim for implementing, in a network system including
2 a server system and a client system, wherein the server system monitors the occurrence of
3 events, sends notification to the client system after one of the monitored events occurs, a
4 method for efficiently notifying the client system, so as to provide notification in a manner
5 preserving the processing capacity of the server system and the client system, and
6 preserving bandwidth on the network system, the computer product comprising:

7 a computer-readable medium carry computer executable-instructions that,
8 when executed at the client computer, cause the client system to perform the
9 following:

10 an act of sending a request to the server system, wherein the request is that
11 the server system transmit a packet of data to the client system using a
12 connectionless protocol;

13 an act of attempting to receive a packet of data from the server system,
14 wherein the packet of data is sent using a connectionless protocol;

15 an act of requesting that notifications be sent using the connectionless
16 protocol, if the attempt to receive the packet of data is successful; and

17 an act of requesting that notifications be sent using a connection-oriented
18 protocol, if the attempt to receive the packet of data is not successful.

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20 21. The computer product as recited in claim 20, wherein the act of requesting
21 notifications be sent using a connection-oriented protocol, further comprises an act of
22 attempting to establish a connection to the server system using the connection-oriented
23 protocol.
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1 22. The computer program product as recited in claim 20, wherein the act of
2 requesting that notifications be sent using a connection-oriented protocol, further
3 comprises:

4 an act of causing the server system to be polled at time intervals to check
5 for data associated with the occurrence of events; and

6 an act of causing a request for the data associated with occurrence of events
7 to be transmitted to the client system.

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9 23. The computer program product as recited in claim 20, wherein the attempt
10 to receive the packet of data is unsuccessful if the packet of data is not received within a
11 prespecified period of time.

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13 24. The computer program product as recited in claim 20, wherein the
14 connection-oriented protocol is the Transmission Control Protocol.

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16 25. The computer program product as recited in claim 20, wherein the
17 connectionless protocol is the User Datagram Protocol.

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19 26. The computer program product as recited in claim 20, wherein the
20 computer-readable medium comprises one or more physical storage media.